

WHAT IS CLAIMED IS:

1 1. A process of removing holefill residue from a surface of an electronic substrate
2 comprising contacting holefill residue with a swelling agent and planarizing said surface of
3 said substrate contacted with said swelling agent.

1 2. A process in accordance with Claim 1 wherein said surface is metallic or
2 dielectric.

1 3. A process in accordance with Claim 2 wherein said surface is metallic.

1 4. A process in accordance with Claim 3 wherein said surface is copper.

1 5. A process in accordance with Claim 1 wherein said swelling agent is a polar
2 organic solvent.

1 6. A process in accordance with Claim 5 wherein said polar organic solvent is an
2 aprotic solvent.

1 7. A process in accordance with Claim 6 wherein said aprotic solvent is selected
2 from the group consisting of di(ethylene glycol) butyl ether, N-methyl pyrrolidine and
3 dimethyl formamide.

1 8. A process in accordance with Claim 1 including the step of contacting said holefill
2 residue, subsequent to contact with said swelling agent, with an oxidizing agent.

1 9. A process in accordance with Claim 8 wherein said oxidizing agent is an
2 oxyanion.

1 10. A process in accordance with Claim 9 herein said oxyanion is selected from the
2 group consisting of a permanganate salt and a chromate salt.

1 11. A process in accordance with Claim 1 wherein said mechanical planarizing step
2 is conducted in the presence of a liquid agent having a pH in the range of between about 6
3 and about 8.

1 12. A process in accordance with Claim 11 wherein said liquid is water.

1 13. A process in accordance with Claim 1 wherein said planarizing step occurs by
2 mechanical means.

1 14. A process in accordance with Claim 13 wherein said mechanical planarizing step
2 utilizes a mechanical planarizing head.

1 15. A process in accordance with Claim 13 wherein said mechanical planarizing step
2 is conducted in the absence of any lubricating agent.

1 16. A process in accordance with Claim 1 wherein said planarizing step occurs by
2 means of a high pressure water spray.

1 17. A process in accordance with Claim 16 wherein said high pressure spray includes
2 abrasive particles.